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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,330	04/12/2001	Nobuyasu Sakai	01224/LH	3481

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EXAMINER	
LE, HUYEN D	
ART UNIT	**PAPER NUMBER**
2643	7

DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/833,330	SAKAI ET AL.	
	Examiner	Art Unit	
	HUYEN D. LE	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *28 September 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 5-6 recites the limitation "said cover" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukuyama (U.S. patent 6,570,993).

Regarding claims 1-2 and 5, Fukuyama teaches a vibration actuator which comprises a magnetic circuit (10, 11, 12, 17, 19) having a gap (figure 1A), a coil (18), and a supporting unit

(14) as claimed (col. 3, lines 29-67). Fukuyama further teaches a space defining member (9, 26, 26a, figures 1A and 5) which has a sound release hole (26a, 28a) as claimed.

Regarding claims 4-5, as broadly claimed, Fukuyama shows a cover (9, 9a, 26, 28) on the other side of the magnetic circuit. It is inherent that there is an air damping effect between the yoke and the cover (figure 5) or a damping space between the magnetic circuit component and the cover.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 3-5, as interpreted in a different manner, and claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuyama (U.S. patent 6,570,993).

Regarding claim 3, Fukuyama does not specifically teach and show that the through hole (28a) has a shape as claimed. However, it is very well-known in the art to provide a sound generating hole in a telephone which has a shape of a circle, ellipse, elongated circle or a polygon.

Therefore, it would have been obvious to one skilled in the art to provide any shape for the sound generating hole (28a) of the Fukuyama device for a desired choice.

Regarding claims 4-5, as interpreted in a different manner, Fukuyama does not specifically disclose that there is an air damping effect or a damping space between the yoke and the cover. However, Fukuyama does not restrict the construction of the openings (26a, 28a) in the space defining member (col. 6, lines 3-5 and 20-21).

Therefore, it would have been obvious to construct the openings or the sound release hole (26a, 28a) in the Fukuyama device in any form for providing better air damping effect between the yoke and the cover (9, 9a, 26, 28) and providing good efficiency to the device.

Regarding claims 6 and 8, Fukuyama teaches a vibration actuator which comprises a magnetic circuit (10, 11, 12, 17, 19) having a gap (figure 1A), a coil (18), and a supporting unit (14, figures 1B, 2, 3, 4) as claimed (col. 3, lines 29-67). Fukuyama further teaches a space defining member (26, 26a, figures 1A and 5) which has a sound release hole (26a, 28a) as claimed.

Fukuyama further shows a cover (9, 9a, 26, 28) on the other side of the magnetic circuit. It is obvious that there is a damping space between the magnetic circuit and the cover (also see the rejections for claim 5).

Fukuyama does not specifically teach the area of the sound release hole (26a, 28a) as claimed. However, Fukuyama does not restrict the area of the openings (26a, 28a) in the space defining member (col. 6, lines 3-5 and 20-21).

Therefore, it would have been obvious to provide any area for the sound release hole (26a, 28a) in the Fukuyama device such as an area corresponding to about 1.3% to 3.5% of an area of the cover (28) for providing good efficiency and improved frequency characteristics to the device.

Regarding claim 7, Fukuyama teaches a vibration transmitting portion (9, 16, 26) as claimed.

Regarding claims 9 and 10, Fukuyama teaches a vibration member (8) as claimed (figures 1A, 5).

Regarding claim 11, Fukuyama does not specifically teach the material for the vibration member. However, the examiner takes the Office Notice that providing a plastic film material selected from polyether imide, polyethylene terephthalate, polycarbonate, polyphenylenesulfide, polyacrylate, polyimide or aramide for a diaphragm is very well-known in the art.

Since Fukuyama does not restrict to any specific material for the diaphragm (8); it therefore would have been obvious to one skilled in the art to provide any kind of plastic material for the diaphragm (8) for greater flexibility depending on the desired frequency characteristics.

Regarding claim 12, as shown in figures 1A and 1B, the vibration member (8) is faced to the surface of the coil. Fukuyama does not specifically disclose that the vibration member (8) is adhered to the surface or a plurality surfaces of the coil by adhesive.

However, the examiner takes the Office Notice that attaching the diaphragm to the plural surfaces of the coil by adhesive is very well-known in the art.

Therefore, it would have been obvious to one skilled in the art to provide the adhesive for connecting the vibration member (8) to the plural surfaces the coil (18) of Fukuyama for firmly and securely connecting the coil to the diaphragm

Regarding claim 13, Fukuyama does not specifically disclose the sound release hole (26a, 28a) as claimed. However, Fukuyama does not restrict the construction of the openings (26a, 28a and see col. 6, lines 3-5 and 20-21).

Therefore, it would have been obvious to construct the openings or the sound release hole (26a, 28a) in the Fukuyama device in any form to provide vibration attenuating function utilizing air viscostity as claimed for providing good efficiency to the device.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamaguchi et al. (U.S. patent 6,404,085) and Kobayashi et al. (U.S. patent 6,553,125) teaches a sound-vibration generator.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (703) 305-4844. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (703) 305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5631.

HL
July 28, 2003

HUYEN LE
PRIMARY EXAMINER